Claims

[c1] 1.An electronic trip unit for a circuit breaker comprising:
a microprocessor, said microprocessor programmed to determine an overcurrent condition of said circuit breaker;
a nonvolatile memory in operable communication with said microprocessor;
a rating plug releasably engaged with said microprocessor, said rating plug includes an identification register;
wherein said microprocessor reads said identification register, said identification register including an identification number;
wherein said microprocessor accesses one of a plurality of programs in said nonvolatile memory based on said identification number; and
wherein said one of a plurality of programs instructs said microprocessor to perform a validation of said rating plug for operation with said microprocessor.

[c2] 2.The electronic trip unit of claim 1 wherein said validation includes an error detection program processable by said microprocessor for rejecting inappropriate rating plugs used with a selected circuit breaker frame and electronic trip unit.

[c3] 3.The electronic trip unit of claim 1 wherein said microprocessor performs said validation when said microprocessor is powered up.

[c4] 4.The electronic trip unit of claim 1 wherein said rating plug includes a display, said display is indicative of said validation.

[c5] 5.The electronic trip unit of claim 1 wherein said validation causes said microprocessor to generate a signal indicative of an improper rating plug and electronic trip unit combination.

[c6] 6.The electronic trip unit of claim 5 wherein said signal causes the circuit breaker to trip.

[c7] 7.The electronic trip unit of claim 5 wherein said signal causes the microprocessor to trip at a first setting, said first setting includes a low current flow setting.

[c8] 8.The electronic trip unit of claim 5 wherein said signal is indicated on a display indicative of an inappropriate rating plug and electronic trip unit combination.

[c9] 9.The electronic trip unit of claim 8 wherein said display includes an LED, said signal is indicated on said LED.

[c10] 10.The electronic trip unit of claim 9 wherein said signal causes said LED to blink indicative of an inappropriate rating plug and electronic trip unit combination.

[c11] 11.The electronic trip unit of claim 5 wherein said signal is transmitted on a LAN to a host controller, said signal generates an error code to said host controller.

[c12] 12.The electronic trip unit of claim 1 wherein said rating plug includes a label indicating a current rating of said rating plug.

[c13] 13.A circuit breaker comprising:
an electrical contact;
an operating mechanism arranged to separate electrical contacts;
a trip actuator in mechanical communication with said operating mechanism;
an electronic trip unit in operable communication with said trip actuator;
wherein said electronic trip unit including:
a microprocessor, said microprocessor programmed to determine an overcurrent condition of said circuit breaker;
a nonvolatile memory in operable communication with said microprocessor;
a rating plug releasably engaged with said microprocessor, said rating plug includes an identification register;
wherein said microprocessor reads said identification register, said identification register including an identification number;
wherein said microprocessor accesses one of a plurality of programs in said nonvolatile memory based on said identification number; and
wherein said one of a plurality of programs instructs said microprocessor to perform a validation of said rating plug for operation with said microprocessor.

[c14] 14.The circuit breaker of claim 13 wherein said validation includes an error

detection program processable by said microprocessor for rejecting inappropriate rating plugs used with a selected circuit breaker frame and electronic trip unit.

[c15] 15.The circuit breaker of claim 13 wherein said microprocessor performs said validation when said microprocessor is powered up.

[c16] 16.The circuit breaker of claim 13 wherein said rating plug includes a display, said display is indicative of said validation.

[c17] 17.The circuit breaker of claim 13 wherein said validation causes said microprocessor to generate a signal indicative of an improper rating plug and electronic trip unit combination.

[c18] 18.The circuit breaker of claim 17 wherein said signal causes the circuit breaker to trip.

[c19] 19.The circuit breaker of claim 17 wherein said signal causes the microprocessor to trip at a first setting, said first setting includes a low current flow setting.

[c20] 20.The circuit breaker of claim 17 wherein said signal is indicated on a display indicative of an inappropriate rating plug and electronic trip unit combination.

[c21] 21.The circuit breaker of claim 20 wherein said display includes an LED, said signal is indicated on said LED.

[c22] 22.The circuit breaker of claim 21 wherein said signal causes said LED to blink indicative of an inappropriate rating plug and electronic trip unit combination.

[c23] 23.The circuit breaker of claim 17 wherein said signal is transmitted on a LAN to a host controller, said signal generates an error code to said host controller.

[c24] 24.The circuit breaker of claim 13 wherein said rating plug includes a label indicating a current rating of said rating plug.

[c25] 25.A method of rejecting an inappropriate rating plug for use with an electronic trip unit, said method comprising:

starting a microprocessor, said microprocessor programmed to determine an overcurrent condition of said circuit breaker;
identifying a rating plug releasably engaged with the electronic trip unit and in operable communication with microprocessor;
determining a program associated with said rating plug; and
executing said program, said program performs a validation of said rating plug.

[c26] 26.The method of claim 25 wherein said identifying a rating plug further comprises reading a number stored in an identification register at said rating plug.

[c27] 27.The method of claim 26 wherein said determining a program further comprises comparing said number with a plurality of numbers at a look-up table.

[c28] 28.The method of claim 25 wherein said determining a program further comprises retrieving said program from a nonvolatile memory.

[c29] 29. The method of claim 25 wherein said validation further comprises a notification from said microprocessor to a host controller upon rejection of an inappropriate rating plug.

[c30] 30.An electronic trip unit for a circuit breaker comprising:
a microprocessor, said microprocessor programmed to determine an overcurrent condition of the circuit breaker;
a rating plug releasably engaged with said microprocessor; and
wherein said microprocessor includes:
means for identifying said rating plug,
means for determining a program associated with said rating plug, and
means for executing said program, said program performs a validation of said rating plug.

[c31] 31.The electronic trip unit of claim 30 wherein said rating plug includes a display.

[c32] 32. The electronic trip unit of claim 30 wherein said display is indicative of said

validation of said rating plug.

[c33] 33.The electronic trip unit of claim 30 wherein said validation generates a signal indicative of an inappropriate rating plug and electronic trip unit combination.

[c34] 34.The trip unit of claim 33 wherein said signal result in a safe mode operation of the circuit breaker.